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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/715,474 | 11/19/2003 | Tomio Kumamoto | 2927-0162P | 3739 |

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| EXAMINER |
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BLAU, STEPHEN LUTHER

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| ART UNIT | PAPER NUMBER |
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3711

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/715,474

Applicant(s)

KUMAMOTO, TOMIO

Examiner

Stephen L. Blau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-9 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The substitute specification dated 25 August 2004 has been approved and the objection to the disclosure is removed.

Claim Objections

2. Claim 3 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. All the elements of structure in claim 3 are in claim 2. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-3, and 6-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 2 recites the limitation "said region" in

line 19. There is insufficient antecedent basis for this limitation in the claim. It is uncertain what this region refers to. In addition, the statement "A golf club shaft high and is substantially parallel with an axis of said shaft" in lines 1-8 does not make sense. Claim 6 and 9 are indefinite in that the statement "where two of the three prepregs constructs the angular layers and one of the three prepregs constructs the straight layer" is not understood. Is this the angular and straight layers defined only in the tip side as stated in claim 5 and 8 or is it the straight and angular layers formed by the prepregs from the tip end to the butt end as defined by earlier in claim 6 and 9. Is prepregs 11-12 being discussed or 15-16 for the two of the three prepregs? There is not proper antecedent basis. Claims 3 and 7-8 are rejected for depending on a rejected base claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takemura in view of Yamamoto.

Takemura discloses a fiber reinforced resin (Col. 23, Lns. 47-55), whose outer diameter is set to 10 to 10.5 mm in at least one portion in a range from at tip thereof

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disposed at a head mounting side to a position located at 25% of a distance from a tip to a butt thereof in the form of the tip end (Col. 9, Lns. 10-18), a tip EI value of 1.5 to 2.5 (Col. 9, Lns. 1-9), a reinforcing layer (Ref. Nos. 4a, 4b, 4c, 2b) in a region from a top to a position located at 25 % of a distance from a tip to a butt (Fig. 3), a reinforcing layer including a straight layer (Ref. Nos. 4a, 4b, 4c) consisting of a prepreg whose reinforcing layer has a tensile modulus of elasticity of 5-15 tons/mm² and being substantially parallel with an axis of a shaft (XN-05, Table 1, Example 6, Table 2), an angular layer (Ref. No. 2b) consisting of a prepreg whose reinforcing fiber has a tensile modulus of elasticity of 24-40 ton/mm² and an orientation angle of 20-65 degrees with respect to an axis of a shaft (P9055F-11, Table 1, Example 6, Table 2), and reinforcing straight layers varying from 1 to 10. Takemura does not disclose specifically the weight ratio of the straight layer (Ref. Nos. 4a-4c, Fig. 3) to the angular layer (Ref. No. 2b, Fig. 3) but clearly there is a ratio and an artisan skilled in the art would have selected a suitable ratio in which .7-.8 is included.

Takemura lacks a minimum value of an EI value in said range of 1-2.5 kg*m² and a ratio of a weight of a straight layer to a weight of an angular layer being .7 to 8.

It would have been obvious to modify the shaft of Takemura to have a ratio of a weight of a straight layer (Ref. Nos. 4a-4c) to a weight of an angular layer (Ref. No. 2b) being .7-.8 in order to ensure there is a sufficient amount of reinforcement to a tip of a shaft for a strong player who swings a club fast.

Yamamoto discloses a shaft having a reinforced tip (Fig. 3c) having EI dip from about 3 to 2 kg*m² (Fig. 4). In view of the reference of Yamamoto it would have been

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obvious to have a dip in EI to a minimum value in a range of 1-2.5 kg*m² in order have sufficient rigidity for a tip portion of a shaft so excessive flexibility does not result in errors at impact of a golf ball.

Allowable Subject Matter

7. Claims 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art discloses or renders as obvious preregs disclosed only on the tip side constructing the straight layer and angular layer as defined in claim 1 in addition to the other elements of structure claimed.

8. Claims 8 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. None of the prior art discloses or renders as obvious preregs disclosed only on the tip side constructing the straight layer and angular layer as defined in claim 1 in addition to the other elements of structure claimed.

Response to Arguments

9. The argument that the applicants have amended the claim to overcome the improper antecedent basis issues is disagreed with. First the claim 2 in the amendment 6 December 2004 was not based on the original claim 2 since the original occurrence of this error was not there. The applicant is cautioned in that amendments must amend the original claim. Second the applicant reinserted this error into words added to this claim. The argument that the amendment overcomes the Kusumoto reference is agreed with and the rejection has been removed. The argument that the reference of Takemura is improper due to Takemura not motivating one skilled in the art to modify the diameter from 9.5 to 10 mm is disagreed with. As discussed above Takemura does disclose this diameter range. Example 6 was only a specific example of using the allowed range.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Blau whose telephone number is (571) 272-4406. The examiner is available Monday through Friday from 8 a.m. to 4:30 p.m.. If the examiner is unavailable you can contact his supervisor Greg Vidovich whose telephone number is (571) 272-4415. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0858. (TC 3700 Official Fax 703-872-9306)

slb/ 28 February 2005


STEPHEN BLAU
PRIMARY EXAMINER